



FORM PTO-1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. K-1436P Cont.		SERIAL NO. 10/606482								
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use several sheets if necessary) (37 CFR 1.98(b))				APPLICANT Mehrotra et al.										
				FILING DATE 6/26/03		GROUP								
<b>U.S. PATENT DOCUMENTS</b>														
EXAMINER INITIAL		PATENT NUMBER						ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE		
		4	0	1	1	1	0	8	3/1977	Hellman et al.	148	11.5P		
		4	1	2	7	4	1	6	11/1978	Lumby et al.	106	73.2		
		4	2	2	7	8	4	2	10/1980	Samanta et al.	409	131		
		4	2	6	4	5	4	8	4/1981	Ezis	264	65		
		4	2	8	6	9	0	5	9/1981	Samanta	409	132		
		4	2	9	6	0	6	5	10/1981	Ishii et al.	264	325		
		4	3	8	8	0	8	5	6/1983	Sann et al.	51	307		
		4	4	0	1	6	1	7	8/1983	Ezis et al.	264	332		
		4	4	0	6	6	6	7	9/1983	Sann et al.	51	295		
		4	4	0	6	6	6	8	9/1983	Sann et al.	51	295		
		4	4	0	9	0	0	3	10/1983	Sann et al.	51	295		
<b>FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION</b>														
		DOCUMENT NUMBER						PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION		
		9	7	1	8	1	7	7	5/1997	PCT			YES	NO
		0	2	9	8	9	3	6	1/1989	Europe			X	
		9	7	3	5	8	1	7	10/1997	PCT			X	
		0	3	5	4	1	4	3	03/1991	Japan			Full English	
		3	1	9	3	6	6	6	08/1991	Japan			Full English	
		3	9	3	8	6	4	4	05/1990	Germany				X
<b>OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)</b>														
		Sivasankaran et al., "Wear of Ceramic Tools in Machining Cast Iron", pp. 293-301												
		Beeghly et al., "Application-Specialized Ceramics: A Silicon Nitride for Machining Gray Cast Iron".												
		pp. 91-99; ASM Conference: Tool Materials, Scottsdale, AZ (February, 1987)												
		Janardhana Reddy et al., "Comparative Studies of Ceramic and Tungsten Carbide Tools for Machining Gray Cast Iron," pp. 161-171; Conference: Advanced Ceramics; India (March, 1990)												
EXAMINER									DATE CONSIDERED					
<b>EXAMINER:</b> Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.														



K-1436P Cont  
Patent

-1-

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service with first class postage affixed, in an envelope addressed to Assistant Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on July 30, 2003.

Signature

Rhonda L. Sanders

Type or Print Name of Person Certifying

Date: July 30, 2003

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the application of: Mehrotra et al. )

Serial No. 10/606482 )

Filed: June 26, 2003 )

For: PROCESS FOR HEAT TREATING )

CERAMICS AND ARTICLES OF )

MANUFACTURE MADE THEREBY )

Group Art Unit:

Examiner:

ASSISTANT COMMISSIONER FOR PATENTS  
Alexandria, Virginia 22313

**INFORMATION DISCLOSURE STATEMENT**

In accordance with the provisions of 37 C.F.R. 1.56 and 37 C.F.R. 1.97-1.99, it is requested that the references listed on the attached Form PTO-1449 be made of record in the above identified application. Copies of the references are submitted herewith. If some of the documents have markings thereon, applicants do not intend to attach any significance to such markings.

This Information Disclosure Statement is being filed within three months of the filing date of this patent application and hence, must be considered by the Patent Examiner. However, if any fees are necessary, the Commissioner is hereby authorized to charge fees necessary to enter this paper and obtain consideration of the documents identified on the attached listing to Deposit Account No. 02-2267.

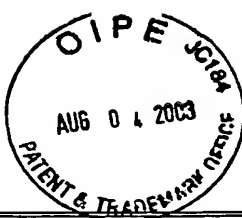
Respectfully submitted,

Stephen T. Belsheim  
Attorney for Applicant(s)  
Registration No. 28,688  
Telephone: 615-662-0100  
Facsimile: 615-662-0352

179 Belle Forrest Cir  
Suite 102  
Nashville, Tennessee 37221



<b>FORM PTO-1449</b> (Modified)		<b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>		<b>ATTY. DOCKET NO.</b> K-1436P Cont.		<b>SERIAL NO.</b> 10/606482								
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use several sheets if necessary) (37 CFR 1.98(b))				<b>APPLICANT</b> Mehrotra et al.										
				<b>FILING DATE</b> 6/26/03		<b>GROUP</b>								
<b>U.S. PATENT DOCUMENTS</b>														
<b>EXAMINER INITIAL</b>		<b>PATENT NUMBER</b>						<b>ISSUE DATE</b>	<b>PATENTEE</b>	<b>CLASS</b>	<b>SUBCLASS</b>	<b>FILING DATE IF APPROPRIATE</b>		
		4	4	0	9	0	0	4	10/1983	Sann et al.	51	295		
		4	4	1	6	6	7	0	11/1983	Sann et al.	51	295		
		4	4	2	1	5	2	5	12/1983	Sann et al.	51	295		
		4	4	3	1	4	3	1	02/1984	Sann et al.	51	295		
		4	4	4	0	5	4	7	04/1984	Sann et al.	51	295		
		4	4	3	3	9	7	9	02/1984	Sann et al.	51	307		
		4	4	3	4	2	3	8	02/1984	Ezis et al.	501	98		
		4	4	4	1	8	9	4	04/1984	Sann et al.	51	295		
		4	4	4	9	9	8	9	05/1984	Sann et al.	51	295		
		4	4	9	7	2	2	8	02/1985	Sann et al.	82	1C		
		4	4	4	0	7	0	7	04/1984	Shimamori et al	264	65		
<b>FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION</b>														
		<b>DOCUMENT NUMBER</b>						<b>PUBLICATION DATE</b>	<b>COUNTRY OR PATENT OFFICE</b>	<b>CLASS</b>	<b>SUBCLASS</b>	<b>TRANSLATION</b>		
		4	0	0	0	7	7	7	08/1990	Germany			YES	NO
		3	9	3	9	9	8	9	07/1990	Germany				X
<b>OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)</b>														
			Tennenhouse et al., "Interaction of Silicon Nitride and Metal Surface", J. Am.. Ceramic Soc. 68 [1] C30-C31 (1985)											
			Agranov et al., "Wear Behavior of Hot Pressed Silicon Nitride in Cutting of Cast Iron", Ind. Ceramics Vol. 8, No. 4 pp. 192-197 (1988)											
			Bhola et al., "ceramic Cutting tool Inserts", Key Engineering Materials, Vols. 122-124 (1996) pp. 235-246											
<b>EXAMINER</b>									<b>DATE CONSIDERED</b>					
<b>EXAMINER:</b> Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.														



FORM PTO-1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. K-1436P Cont.	SERIAL NO. 10/606482
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use several sheets if necessary) (37 CFR 1.98(b))		APPLICANT Mehrotra et al.	
		FILING DATE 6/26/03	GROUP

### U.S. PATENT DOCUMENTS

EXAMINER INITIAL		PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		4 5 6 3 4 3 3	01/1986	Yeckley et al.	501	97	
		4 5 7 5 4 4 9	03/1986	Lueth	419	26	
		4 6 0 7 0 1 7	08/1986	Wolfe et al.	501	98	
		4 6 0 9 6 3 3	09/1986	Fukuhara et al.	510	97	
		4 6 3 2 9 1 0	12/1986	Lee et al.	501	97	
		4 6 4 0 6 9 3	02/1987	Bhat et al.	51	295	
		4 6 5 0 4 9 8	03/1987	Buijan	51	309	
		4 6 5 2 2 7 6	03/1987	Burden	51	308	
		4 7 4 3 5 7 1	05/1988	Steinmann et al.	501	97	
		4 7 4 5 0 2 2	05/1988	Miyake et al.	428	216	
		4 7 6 9 3 5 0	09/1988	Nishioka et al.	501	98	

### FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
		0 1 0 7 9 1 9	05/1984	Europe			X	
		0 6 1 5 9 6 3	09/1994	Europe			X	
		0 4 9 7 3 5 5	08/1992	Europe			X	
		0 4 9 9 8 6 1	08/1992	Europe			X	
		0 4 7 2 2 5 6	08/1995	Europe			X	
		0 5 8 9 9 9 7	04/1994	Europe			X	

### OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)

		Nishioka et al. "Mechanical Properties of Si <sub>3</sub> N <sub>4</sub> Ceramics with ZrO <sub>2</sub> -addition under high temperature and observation of the micro-structure (date unknown)
		Falk et al. "Microstructure and Short Term Oxidation of Hot-Pressed Si <sub>3</sub> N <sub>4</sub> /ZrO <sub>2</sub> (=Y <sub>2</sub> O <sub>3</sub> ) Ceramics", J. Am. Ceram. Soc. 75 [1] (1992) pp.28-35
		Knutson-Wedel, Si <sub>3</sub> N <sub>4</sub> Ceramics Formed by HIP Using Additions of ZrC <sub>x</sub> , Ceramics Today-Tomorrow's Ceramics, Materials Science Monographs, 66B, Elsevier Sci. Publishers B.V. (1991)

EXAMINER

DATE CONSIDERED

**EXAMINER:** Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
K-1436P Cont.SERIAL NO.  
10/606482INFORMATION DISCLOSURE  
STATEMENT BY APPLICANTAPPLICANT  
Mehrotra et al.(Use several sheets if necessary)  
(37 CFR 1.98(b))FILING DATE  
6/26/03

GROUP

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		PATENT NUMBER							ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		4	8	4	8	9	8	4	07/1989	Ezis et al.	51	309	
		4	8	8	1	9	5	0	11/1989	Bhat et al.	51	307	
		4	8	9	2	7	9	2	01/1990	Sann et al.	428	698	
		4	9	4	6	6	3	0	08/1990	Ezis	264	65	
		4	9	5	9	3	3	1	09/1990	Mehrotra et al.	501	89	
		4	9	5	9	3	3	2	09/1990	Mehrotra et al.	501	89	
		4	9	6	0	7	3	5	10/1990	Mehrotra et al.	501	89	
		4	9	6	1	7	5	7	10/1990	Rhodes et al.	51	309	
		4	9	6	5	2	3	1	10/1990	Mehrotra et al.	501	89	
		4	9	1	3	9	3	6	04/1990	Mehrotra et al.	427	249	
		4	7	8	9	2	7	7	12/1988	Rhodes et al.	409	131	

## FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER							PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION	
													YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)

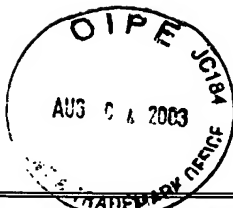

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



<b>FORM PTO-1449</b> (Modified)		<b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>		<b>ATTY. DOCKET NO.</b> K-1436P Cont.		<b>SERIAL NO.</b> 10/606482							
<b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>  (Use several sheets if necessary) (37 CFR 1.98(b))				<b>APPLICANT</b> Mehrotra et al.		<b>GROUP</b>							
				<b>FILING DATE</b> 6/26/03									
<b>U.S. PATENT DOCUMENTS</b>													
<b>EXAMINER</b> <b>INITIAL</b>		<b>PATENT NUMBER</b>						<b>ISSUE</b> <b>DATE</b>	<b>PATENTEE</b>	<b>CLASS</b>	<b>SUBCLASS</b>	<b>FILING DATE</b> <b>IF APPROPRIATE</b>	
		5	0	4	9	5	3	1	09/1991	Nakanishi et al.	501	98	
		5	0	7	9	1	9	8	01/1992	Edler et al.	501	98	
		5	0	2	4	9	7	6	06/1991	Mehrotra et al.	501	89	
		5	1	1	0	7	7	0	05/1992	Brandt et al.	501	89	
		5	1	2	2	4	8	5	06/1992	Akimune	501	92	
		5	1	7	1	7	2	3	12/1992	Moriguchi et al.	501	97	
		5	1	9	8	1	6	5	03/1993	Akimune et al.	264	65	
		5	2	5	0	4	7	7	10/1993	Baldoni, II et al.	501	95	
		5	2	9	6	0	0	8	03/1994	Moriguchi et al.	51	295	
		5	3	0	8	5	6	1	05/1994	Leimer et al.	264	65	
		5	3	1	6	8	5	6	05/1994	Suzuki et al.	428	446	
<b>FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION</b>													
		<b>DOCUMENT NUMBER</b>						<b>PUBLICATION</b> <b>DATE</b>	<b>COUNTRY OR</b> <b>PATENT OFFICE</b>	<b>CLASS</b>	<b>SUBCLASS</b>	<b>TRANSLATION</b>	
												<b>YES</b>	<b>NO</b>
<b>OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)</b>													
<b>EXAMINER</b>								<b>DATE CONSIDERED</b>					
<b>EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include c py of this form with next communication to applicant.</b>													



FORM PTO-1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. K-1436P Cont.		SERIAL NO. 10/606482							
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use several sheets if necessary) (37 CFR 1.98(b))				APPLICANT Mehrotra et al.									
				FILING DATE 6/26/03		GROUP							
<b>U.S. PATENT DOCUMENTS</b>													
EXAMINER INITIAL		PATENT NUMBER						ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
		5	3	2	6	7	3	3	07/1994	Mizuno et al.	501	97	
		5	3	7	0	7	1	6	12/1994	Mehrotra et al.	51	293	
		5	3	8	2	2	7	3	01/1995	Mehrotra et al.	51	307	
		5	4	1	1	9	2	3	05/1995	Suzuki et al.	501	97	
		5	4	3	9	8	5	5	08/1995	Rosenthal	501	97	
		5	4	3	2	1	3	2	07/1995	Dasgupta et al.	501	97	
		5	5	2	5	1	3	4	06/1996	Mehrotra et al.	51	307	
		5	6	6	8	0	6	9	09/1997	Sato et al.	501	97.2	
		5	5	7	1	7	6	0	11/1996	Pujari et al.	501	97	
		5	7	5	9	4	8	1	06/1998	Pujari et al.	264	655	
		R	E	3	5	5	3	8	06/1997	Akesson et al.	501	87	
<b>FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION</b>													
		DOCUMENT NUMBER						PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION YES NO	
<b>OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)</b>													
<b>EXAMINER</b>													
<b>DATE CONSIDERED</b>													
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.													

FORM PTO-1449  
(Modified)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
K-1436P Cont.SERIAL NO.  
10/606482INFORMATION DISCLOSURE  
STATEMENT BY APPLICANTAPPLICANT  
Mehrotra et al.FILING DATE  
6/26/03

GROUP

(Use several sheets if necessary)

(37 CFR 1.98(b))

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		PATENT NUMBER							ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		4	7	1	1	6	4	4	12/1987	Yeckley et al.	51	307	
		4	8	4	3	0	3	9	06/1989	Akesson et al.	501	87	
		4	8	8	0	7	5	5	11/1989	Mehrotra et al.	501	96	
		4	6	7	0	0	2	4	06/1987	Bhat et al.	51	295	
		5	0	3	4	0	2	2	07/1991	Bhat et al.	51	307	
		5	4	5	5	0	0	0	10/1995	Seyferth et al.	419	36	
		5	6	2	8	5	9	0	05/1997	Beeghly et al.	407	114	
		4	2	6	4	5	5	0	04/1981	Ezis	264	85	
		5	6	9	1	2	6	1	11/1997	Takahashi et al.	501	97	
		5	7	0	5	4	4	9	01/1998	Hirao et al.	501	97.1	
		5	4	2	4	2	5	6	06/1995	Yoshimura et al.	501	97	

## FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER							PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION	
													YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)


EXAMINER

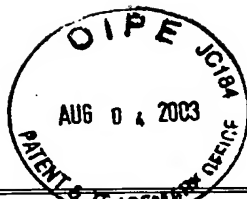
DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.





FORM PTO-1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			ATTY. DOCKET NO. K-1436P Cont.		SERIAL NO. 10/606482							
INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (Use several sheets if necessary) (37 CFR 1.98(b))					APPLICANT Mehrotra et al.									
					FILING DATE 6/26/03		GROUP							
<b>U.S. PATENT DOCUMENTS</b>														
EXAMINER INITIAL		PATENT NUMBER							ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
		5	7	2	0	9	1	7	02/1998	Matsuura et al.	264	432		
		5	4	5	3	2	3	2	09/1995	Hida et al.	264	65		
		5	4	7	2	9	1	9	12/1995	Mitomo et al.	501	97		
		5	4	4	5	7	7	6	08/1995	Honma et al.	264	65		
		5	5	4	5	3	6	2	08/1996	Hirosaki et al.	264	65		
		5	5	0	2	0	1	1	03/1996	Yamamoto et al.	501	97		
		5	4	4	9	6	4	9	09/1995	Li et al.	501	97		
		5	5	4	5	5	9	7	08/1996	Yeckley	501	98		
		5	5	4	1	1	4	3	07/1996	Hirosaki et al.	501	92		
		5	3	5	2	6	4	1	10/1994	Matsui et al.	501	92		
		4	0	3	8	0	9	2	07/1977	Baumgartner	106	73.4		
<b>FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION</b>														
		DOCUMENT NUMBER							PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION YES NO	
<b>OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)</b>														
EXAMINER									DATE CONSIDERED					
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.														

FORM PTO-1449  
(Modified)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
K-1436P Cont.SERIAL NO.  
10/606482INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT(Use several sheets if necessary)  
(37 CFR 1.98(b))APPLICANT  
Mehrotra et al.FILING DATE  
6/26/03

GROUP

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		PATENT NUMBER							ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		5	3	8	4	0	8	1	01/1995	Wotting et al.	264	65	
		5	3	8	4	2	9	2	01/1995	Matsui et al.	501	97	
		5	2	3	4	6	4	3	08/1993	Matsumoto	264	65	
		5	4	0	5	5	9	2	04/1995	Edler et al.	423	344	
		5	2	9	4	5	7	5	03/1994	Matsumoto	501	97	
		5	2	6	4	2	9	7	11/1993	Jindal et al.	428	698	
		5	6	8	3	4	8	1	11/1997	Chatterjee et al.	65	17.3	
		5	8	5	8	1	8	1	01/1999	Jindal et al.	204	192.15	

## FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER							PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION	
													YES	NO
		4	1	3	6	1	7	4	05/1992	JAPAN			Full English	
		6	2	5	2	1	9	2	03/1987	JAPAN			X	
		9	1	1	4	0	1	7	09/1991	PCT			X	

## OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)


EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.